



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

May 7, 1991

Dr. James E. Crowley  
Director, Environmental Control  
Ciba-Geigy Corporation  
444 Saw Mill River Road  
Ardsley, NY 10502

Re: Ciba-Geigy Consent Order: RCRA Docket No., I-88-1088  
RFI Phase IA Report - Approval - Cranston, RI Facility

Dear Dr. Crowley:

The EPA has completed its review of Ciba-Geigy's RCRA Facility Investigation (RFI) Phase IA Report and approve the report under the condition that the following modifications are implemented.

- 1) Minor changes to the executive summary as follows:
  - Pg. 2 - Last sentence should refer to "Section 6.4 of this report".
  - Pg. 3 - Should specifically refer to the suspect data and should state how these data gaps will be resolved.
  - Pg. 9 - The third bullet refers to "apparent horizontal potential gradients" - Is this term correct?
  - Pg. 10 - The last bullet should refer to figures 4-5 & 6-2, and should specify which wells are impacted.
- 2) Minor changes to Section 2 as follows:
  - GPR raw data should be provided as part of this report.
  - Pg. 2-10 & 2-11 should try to explain the nature of the pipe-like anomalies found in each study area as a result of the ground penetrating radar survey.
  - Pg. 2-10 & 2-11 should try to explain whether the slab-like anomalies may be potential impediments to ground water flow in the near surface. This should then be put in Section 6, Page 6-2.
  - Seismic travel time data should be provided as part of this report.

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- The geological interpretation for each layer should be printed directly onto the cross sections.

3) Minor changes to Section 6 as follows:

- Pg. 6-3 - Item # 3 refers to "apparent horizontal potential gradients" - Is this term correct?
- Pg. 6-4 - The second bullet should refer to figures 4-5 & 6-2, and should specify which wells are impacted.
- Pg. 6-4 - The recommendations section should include an analytical needs section which identifies soil samples near P-21D as needing analysis for Appendix IX VOAs.
- Pg. 6-4 - The additional borings referenced in the geological needs section should be identified (e.g., B-17A).

4) General Comments for Future Reports

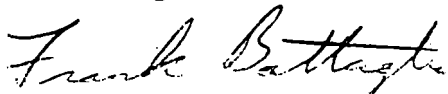
- The Phase I Interim Report should include a more detailed comparison between stratigraphic and geophysical data than found in the Phase IA report. For example, expected stratigraphic boundaries from the geophysics data could have been compared with the stratigraphic data from boring logs to better define site stratigraphy.
- The Phase I Interim Report should include a more detailed and complete hydrogeological model of the site that combines geological, geophysical, hydrologic and hydrogeological data.
- The Phase I Interim Report should discuss how the discontinuous layers of sand, silt and clay in the unconsolidated deposits which were separated into 2 units in the cross sections (an upper mixture of tan medium to fine sands and a lower mixture of gray fine sand, silt and clay) may affect potential contaminant migration.
- The Phase I Interim Report should discuss how the calculated hydraulic conductivity for all wells and piezometers relates to the stratigraphic hydrogeological model of the site.
- The Phase I Interim Report should discuss seasonal variations in ground water flow patterns.

- The Phase I Interim Report should discuss the seasonal variation in river flow properties and how these relate to seasonal variations in ground water flow properties such as horizontal and vertical flow directions and velocities.
- The Phase II Proposal should consider deep monitoring points closer to SWMU's 5, 8, and 11 due to the downward vertical component in ground water flow in these vicinities and that the existing deep monitoring points are a considerable distance from these locations.
- The Phase II Proposal may want to consider ground water monitoring points downgradient of the pond in the WWTP area after assessing the chemical data for that area.

These general comments are included to identify items that were not found/complete in the Phase IA Report due to the preliminary nature of that document but should be included in the Phase I Interim Report. The changes to the Phase IA Report should be submitted to me by June 10, 1991.

If you have any questions, I can be reached at (617) 573-9643.

Sincerely,



Frank Battaglia, Environmental Engineer  
MA & RI Waste Regulation Section

cc: Carol Wasserman, Office of Regional Counsel, EPA  
Mark Houlday, Woodward-Clyde Consultants